except when the magic eye of the camera. instead of the human retina, is applied to onk for it. When it is considered that this musterious crater represents the remains of mountain ring more than fifty miles in dismeter, it appears exceedingly strange that it should escape detection by the telescope when directed to the moon and yet be visible upon a photograph of the moon. The eason tippears to be that the walls of this prwiy discovered crater were long ago de stroyed, being razed by some denuding force nearly to the level of the surrounding surface. It is consequently but the must of a great crater ring. Even in that condition, however, it would be visible s the eye but for the fact that its buge Cober Copernicus, whose walls are still standing to a great height, is surrounded by rmous masses of luminous materia and helps like lava and must have over sured the surrounding country ages ago. of reflects back the light of the sun to our with overpowering brilliancy. The re of this broad reflecting surface, coverare numbereds of square miles, is so great as concel the comparatively low relief of re broken crater ring.

(if more astronomers are much specujuing over this new and wonderful work of graphy, and much time is spent and half used over it. The majority seem be agraving at the conclusion that is not man that Copermous is responsible and disappearance of the other great se which doubtless was the predecessor explainments and once towered up an to but above the surrounding plains. chius formed, so that only the as proken wall remains to be

as important has lately been made casency of photography. There common with cuswilling senter. ... It is not now active but there as evaluated bright rays that he abule to explain. This extinct one fifty-four miles in diameter. nded on the outer side of its cerey of Tycho when It was the erater is strengthened by

hom second upon, but the astrono property engaged studying me they could not be lire, for is inactive. They must be forest from anything we have that they were some kind of ctal thrown off by the volcane consider by the fact that they straight. If they had been al thrown out, upon an irregular they could not have cooled in

specially ander as regards amortan discoveries will can it. The astronomer has take the moon as it appears. Through belescope, and then

Are, we are indebted to the have studied science for the mere to see what was in it," made a to those men the world is in for auffine, untipyrine and more hundred other coal-tar prodwondering what

netrolehim. found waseline. Pasteur what entired ferments out of and brought a new era use. The singles and dancing the attracted the attention of a we make as a consequence all the s of s um. The swinging of a an Italian cathedral before continue thought, even in this one or can never be known.

the mystery about the cel, as science and within the last few years, is the fact that it lays its eggs, or forth its young alive, in the sea, no one has a chance to observe the Other fishes, like the shad, leave ocurious and slippery customer does en or intened, leave the sait water their way in armies up the is in and. Obstacles apparently insuramble they use the utmost ingenuity es upon dr | land in order to get around

in the spring and summer any visitor at agara who descends beneath the great of water at the foot of the falls will " Bierally hundreds of cart leads of smr. es wriggling over the rocks and squirmin the whirlpools. Of course, it is imfor them to get over the falls, and as it happens that, although gels have rays been pientiful in Lake Ontarlo, are were none in Lake Eric until they are planted in the latter body of water "Ibdally.-New York Son

CHARTER SURRENDERED.

B. F. ROGERS INDORSED BY ELM-WOOD ALLIANCE 1832.

The Charter Surrendered, President Evan Jones Notified of the Action, and Some Pretty Plain Language is Used.

The following was unanimously adopted Elmwood Alliance on August 28, 1891: Whereas, there has been of late rumors and insinuations against Brother B. F. Rogers, a member of our Alliance in good ding; and

Whereas, it becomes our painful duty to either expel him from our membership of surrender our charter; now, therefore, be i Resolved, by Elmwood Alliance No. 1832. that finding no charges against Brother Rogers, and that rather than hamiliate our-selves by expelling him, w hereby surrender our charter to the n Der author ties, pledging our adherence to, and con-fidence in, the principles of the Alliance, and our support of Brother Rogers in his unequal contest in opposing fraud and cor-ruption in the official ranks of the order. THOMAS CHRISTIAN, President.

P. C. GALLOWAY, Secretary,
PRESIDENT JONES ADDRESSED.
The following communication to Presi lent Evan Jones was indorsed by Elimwood

Alliance No. 1832, in regular adjourned ses-sion on August 28, 1891; To President Evan Jones.

Whereas, there was passed by the State Alliance in recent annual session at Dallas, the following preamble and resolutions: "Whereas, certain so-called Alliance members have organized into a foul conspiracy to fatally stab, if within their power the Farmers' Alliance of the state of Texas, first by issuing the circular known as the "Austin Manifesto," and secondly by establishing a maney known as the

Parmers World," at Dallas, Tex., and Whereas, the issuing of said circular and he publishing of said circular and stended to do flagrant violence to the pro-

Resolved that all persons whose names ppear as signed to said manifests, and that il so called Alliance men who are now managing the publication of the Farmers' World, in opposition to the Farmers' Alli-ance of the state of Texas, are hereby deared no longer members in good standing of the order, and all sub-Alliances of the state, by the adoption of this resolution, are so notified and charges preferred."

Now, therefore, be It Resolved, by Elmwood Alliance No. 1832, not we recognize the authority of the state Alliance in the matter of altering or amend ng its constitution and by-laws, but not in preferring charges, and passing sentence vithout a hearing. And having no occasion to prefer charges against our brother is F Rogers, he, to our knowledge, never laying violated Alliance principles, and is s-day a bonn-fide member in good standin with us, there being no charges, nor never has been any against kim, but bowing in submission to the edict of your honorabie body, we hereby surrender our charter. We do so for the following reasons:

We recognize the fact that there has been

isarpation of power by state officers no legated by the constitution and that ther seen, and is now, a disposition on the part f the state organ to misrepresent, and to thely accuse good and loval Alliance men; and a refusal to publish for any except use whose views accord with its own. hereby destroying the liberty of the pres flagrant injustice to a large portion of

membership rder as organized and led to-day is nothing ore nor less than a hot-bed of semi-peli d corruption—because the men who are it be lead to-day some of them, at least) hav grave charges against them, and have neve ventured to go to trial before an impartial fury—some of them are under assumed names—some of them would not be believed on eath, and we would not ourselves be-lieve them, because we believe them un-worths the confidence of honest men and

mfit for the positions they occupy In surrendering our charter, we desire to that we do so with unvarying confidence n, and unfaltering love for, the principle of the Alliance; assuring you that it causes us no little regret to thus be deprived of our picthright; yet we are, in a measure, con ion that we are parting company with a corde of corruptionists, bribe-takers and boodle workers. Our chief regret is, in parting company with our brethren of the county Alliance, with whom we have spent many pleasant hours, and for whom we have the highest regard.

The Fort Worth GAZETTE, the Farmers' World, Texas Farmer and East Texas News

Thomas Christian, President. P. C. Galloway Secretary.

FINANCIAL PROBLEM.

A PROPOSITION SUGGESTED TO MEET THE CASE.

And at the Same Time Cure the Disease. Turn the People Loose and Let Them Take Care of Themselves,

ABILENE, TEX., Sept. 4, 1891. Editor Gazette.

Scarcity of money and stringency of the times. This is the complaint, but what is Without any reference to what has been

written and published by others. I offer the following propositions, which I humbly conceive would, if adopted, meet the case and cure the disease:

1. The free and unlimited comage of gold and silver. That is to say, let the owners States mint and have it coined into legal tender money. Let the gold be converted into \$20. \$10, \$5. \$2\cdot and \$1 pieces, and the silver into deltars, halves, quarters, dimes and half dimes. Let the said owner pay for colning and take the balance for his own the

use.

2. Let no more gold and silver be hoarded. In the treasury vanits and discontinue the issuing of gold and silver certificates.

3. Abotish, as soon as may be legally, the United States banks as banks of issue. Re-quire them to deposit in the United States treasury enough of the government bonds. in their hands to secure the redemption of their outstanding bills, and let the government redeem the balance (if any) in legal tender treasury, notes. Then turn these banks over to the states in which they are ocated, so that they may be governed by state law.

4. Let the United States pay its creditors, such as public officers, soldiers, pensioners, etc., in legal tender treasury notes (green-

5. Reduce the tariff to a revenue stand ard and levy a tax on incomes, so that the ich may help to support the government as

well as the poor.

Sow FOR THE OFFAT STATE OF TEXAS.

6. Let the state of Texas establish at the city of Austin a state bank, using the permanent school fund as its principal capital (instead of loaning it to railroads). Make this bank the market and the control of the contro this bank the custodian of all state funds. Make the state treasurer president and the comproller vice-president; then let the covernor appoint three or more reliable business men, who, with the president and vice-president, may constitute the board of directors. Let the bank issue \$3 in bills for every hard dollar in its vaults, and let the faith of the state be piedged for the re-demption of said bills, and make them re-ceivable for all dues to the state.

In case an emergency should arise let be governor be authorized and required to the and sell books sufficient to meet it.

me and sell bonds sufficient to meet it exas need not fear a bonded debt of \$1,000-000 or \$5,000,000. Let bank interest in the state be moderate and uniform. Let money be loaned on personal security alone.
7. Honesty certainly requires that those who served the state in civil capacities during the war, should receive some compensa-

circulation as money and made receivable for all public dues to the state.

Finally, if anything here suggested is in onflict with our ironelad constitution let be amended and turn the people loose so that they can take care of themselves. One generation has no right to be the hands of those who come after them with constitu-tional provisions. I can see nothing in all this incompatible with the principles of the old Democratic party to which I have be longed (and still belong) since the days of Andrew Jackson. WESLEY SMITH



A word of nine letters expressing both a flower and a character in a popular enter tainment.

7, 1, 9, frozen water. 1, 2, 3, 4, 5, 8, a support. 8, 7, 3, 9, a large river in Egypt

3, 7, 2, 8, the monarch of the animal world. 3, 9, 5, 2, 8, a foreign fruit.

5, 4, 3, 9, a very sure footed animal

8, 7, 5, 6, 3, 9, another word for active of quick.

1, 2, 5, 6, a useful article for the toilet. 8, 2, 6, 3, 9, 5, 9, 8, persons of high rank. 1, 3, 4, 9, a help to solve a difficulty.

No. 233.-Word Squares An astronomical term, referring to shadow. Relating to rules of right. A sword. To set in rows. A kind of tree. Laws. A large body of water. Land between the mouths of a river. One who eats. A tangle.



Make copies of the six half leaves and fifteen petals shown in our picture. Now make a drawing of a stem or branch like the one printed here, and attach the leaves and petals to it. The petals are to form three distinct flowers and the haif leaves three complete ones. When your branch is properly dressed the letters, read from left to right, will give you two lines from an old time English poet's work. This extract fits the subject of the problem. Golden Days.

No. 235 .- Omissions. [The blanks are to be filled with words

pronounced as in the positive and comparative degree.

1. The gentleman who - a short time ago is our new -2. "O --- !" said the small boy scornful-

ly, "there is no danger of --- from my tor-

8. The man broke his - falling into a large hole — the bridge.

4. We will have the baby — for a picture, but how to keep her still long enough

to have it taken is a -5. The greedy boy --- his sister's apple, and found it very -, but no one had any sympathy for him.

No. 236 .- Novel Diamonds. 1. When first I went to I my eye was

caught by a 1 2-3 which a comrade wore. I asked him where he bought it and he answered, "At 1-2-3-4-5." But my 1-2-3-4-5. 6-7 was to have it immediately, at any 3-4-5-6-7, so he gave it to me in exchange for a piece of 5-67, and then I was more at

The words to be supplied may be an ranged so as to form a diamond. 2. With some friends at our is we say down to 1-2-3, but when we had 1-2-3-45 we found that it was 345 o'clock, so our

pleasure came to an 5d. The words to be supplied may be arranged so as to form a diamond.

No. 237 .- Conundrums.

What occurs twice in a moment and not once in twenty years? Why is the letter T like an island?

What is majesty deprived of its exter-No. 238. - Hidden Cities, Countries, Etc.

1. She played all through an overture in five minutes. 2. Have you seen the new church at

Hammersmith? 3. Who says a voyage to the moon is impossible?

4. Here are six foreign coins, two reals, a cent and five dollars. 5. He raised an empire on the rnins of a

6. It was here the hero met his fate. 7. It is a mean thing to rob a sleeping

8. She is a most consummate actress 9. The seventh arrow hit the center of the target.

No. 239.-Deletions.

1. Delete a plan and leave to condescend. 2. A river in India and leave pledges. 3. A military man and leave a kind of metal.

4. A vegetable and leave a conference. 6. Mild and leave a sort of cloth 6. A fish and leave a ray of light.

No. 240 .- A Charade. The first is quite frequently stuck in the In his second a lawyer can always be found, But the third is the place where the farmer To talk over crops and acquaintances greet.

Key to the Puzzler. 284.-For Sharp Wita: Oak, 20214; ash, 141%; larch, 141%; birch, 141%; syca-

-An Octagon: NAME ENIN

No. 236.-An Important Omission : Pass

No. 227.—Cross Word Enigma: Dolphin. No. 228.—What is the River! Mississippi. No. 229.—Combination Puzzle: 1. Dog-

berry. 2. Dog-watch. 8. Dog-bes. 4. Dogmatic (mattock). 5. Doggerel (dog-r-i). 6. Dog-cart. 7. Dog-hook. 8. Dog-rose. No. 230.- Easy Diamonds :

· CAR ERA BRACE JAMES ACT RED

No. 231. - Behead and Curtail: 1. S-hear-s.

RAILROAD NEWS.

The Necro Sustained.

St. Louis, Mo., Sept. 4.—The interstate commission rendered an important decision regarding the separate-coach laws of Texas and Arkansas, in the case of a negro who purchased a chair car ticket from Louisiana o Texas, and was transferred to a separat-oach when he reached Texas. He claime he Federal law had been violated, and the commission sustained him, saying the Texas law affected local state transportation only.

THE DALLAS VALISE.

An Expert Engineer's Report on Her Pet Railroad.

special to the Gazette. Dallas, Tex. Sept. 5.—The following communication will be of general interest ust at this time, when all eyes are on the Texas Trunk railroad difficulty: Hon, C. A. Culberson, Attorney-General, Aus-

DEAR SIR-Under your instructions of the 13th inst., I have made a thorough in-spection of the Texas Trunk railroad, going over the entire road in person and making on exhaustive examination upon the points mentioned below, namely: Superstructure, which includes the track, bridges and cat-The roadbed in excavation is generally

n fair condition, being wide enough and well drained, but the embankments are generally too narrow and have settled down in many places below the original grade lines, leaving the ends of the bridges

The embankments have settled sideways s well as lengthways, causing the track to ist over first to the right, then to the left ide, throwing it out of line and out of sur-

This is especially the case in the East ork bottom, upon the Dougherty prairie nd in the flat ground near Cedar creek and The track is generally in a deplorable ordition and exceedingly dangerous to

The irou is nearly all worn out, broken The fish plates or joint straps are in many

places cut in two, having only half a strap with two bolls instead of a whole strap with four. Even the whole straps have in many places only three bolts, and some only

rotten ties, and in many places on tangents only a spike to every other tie is used on In some places I found two pieces of rail sot strapped at all, but simply butt-jointed

and spiked to the tie, a very dangerous pro edling. About five eighths of a mile near Dallas

s fromed with light steel car rail weighing sbout forty pounds to the yard, instead of lifty-six as it should be. The ball of the rail is in many places orn entirely off on one side, and the ra ien been turned around and the ball off on the other side, leaving only the web of the rail to run on

ous. At least five ties to every rail, or 880 to every mile, are rotten, and either broken in the middle of the track or cut in two Near Dallas a lot of short six-foot ties, or rrow-gauge ties, are used. They should be eight feet in length to get a safe bear-

e ties are generally rotten and dange

g on the road-bed. There is not a particle of ballast used on the entire road, and in many places the ties are down under the mud, or are shinned up at the ends with bits of plank, sticks, chip

The bridges are generally in a miscrable and very dangerous condition, especially near White Rock creek, in East. Forz bot-tom, King's creek, and Codar creek bot-toms, particularly bridges 55, 58, 60, 62, 63, 64, 67, 71, 72, 74, 75, 76, 78, 79, 80, 81, 82, 84, 6, and several near the forty-nine mil

Wherever oak piling has been used they wherever oak plang has been used they are nearly all rotten through; the caps, stringers and ties all rotten; guard rails wanting, and bank sills settled down. I saw only two bridges in good conditionone at White Rock creek and one at Buffalo;

balance all dangerous. The cattle guards are generally in a bad condition; many built of odd scraps of lum ber and double ties used for I2x12 stringers Taken altogether, the road-bed track am bridges are the worst over any road I eve saw that pretended to carry passengers and will require at least 50 per cent of new metal, 33% per cent of new ties, 80 per cent of new bridges and 9000 carloads of

ballast to put it in a safe condition.

2. The relling stock.—I am reliably informed that this road owns one locomotive. twelve flats, a caboose and one passenger coach, and has leased one locomotiv. The comptroller's books at Austin will

show that the rolling stock of this road is assessed at only \$4532, not enough to buy a locomotive.

In my judgment this amount of rolling stock is inadequate to do the business of the road or to handle the freight offered

long the line. The locomotive owned is in good order, but the locomotive leased is in very bad

but the locomotive leased is in very bad condition and needs repairs.

The passenger coach is about fifteen years old, a second-hand Alabama car, badly used up and quite rickety and not at all safe.

3. Depots.—There is not a single depot on this road in Dallas county, a distance of twenty-one miles. Only a small lox12 foot pine box closet for selling tickets in Dallas, and no platform to that.

In Kaufman county there is a box-house depot at Crandall, used excivsively for a

depot at Crandall, used excivsively for a section house; a neat, new small passenger depot at Kaufman, and a good freight and passenger dept at Kemp, but the shei at Cedar station is in a tumbled-down and for

4. Betterments-There is at this time no work being done on the road that can be called a "betterment"—only the ordinary almost pressing, repairs, and not enough of

orn condition, inhabited by owls unt

Along the whole line of the road from Dallas to Cedar station I did not see a single piece of new bridge timber, a new rall or any new material, ex-cept about 1000 new ties—only enough to repair one and one-half miles of track; and I understand that such has been the condition of affairs during the past twelve months, except the two bridges I have mentioned before and the small depot

Repairs must not be mistaken for better ments. To substitute an iron for a wooden bridge, or a brick for a frame depot, or steel for iron: to put in a double track, new pilings, or to ballast the track may be called betterments; but to simply repair damages, to put in a good tie for a bad one. or to turn a rail around, to cut the weeds off the track or to snim up a low bent in a

off the track or to saim up a low bent in a bad bridge is only repairs.

5. Cedar station—I went to Cedar station and walked the track back to Kemp, and found the track in a horrible condition.

This part of the line, four miles in length, s not used much, only to haul out wood, and the ralls have not, therefore, been much worn, but advantage has been taken of this to make of this four miles a reserve deto make of this four miles a reserve de pet from which to take good from and sub-stitute for it the wornout scraps and frag-ments gathered up between Kemp and Dallas, until about one and one-half miles of this track looks like a scrap-heap. The ties and bridges are nearly all rotten.

the road-bed cracked and settled, and the whole a burlesque on a railroad.

Almost the entire road is deficient in hose items necessary to constitute a wel built and well equipped railroad, and is so run down and impaired as to render it un-safe to run a passenger coach at a greater speed than twelve miles per hour, while en many portions of the line it is necessary to crawal along at a four or five-mile speed, and to use extraordinary precautins to keep

the train on the track.

The road-bed, superstructure and rolling stock are deteriorating rapidly, and will soon be utterly worthless unless immediate and expensive repairs are made with new material, and all rotten and broken ties, iron and bridges removed. iron and bridges removed. Respectfully,
[Signed] W. M. Jonnson,
Civil Engineer,
Dallas, Tex., July 18, 1891.
The state of Texas, county of Dallas, be-

fore me the undersigned authority, on

this day peronally appeared W. M. Johnson, who, after being by me duly sworn on his oath says that the foregoing report made and signed by him is true and correct in each and every particular, to the best of his knowledge, information and be Subscribed and sworn to before me this

[Signed] John S. Aldehorf. Notary Public, Dallas County, Texas.

A BIG SUIT.

And One Which will Doubtless Show Up the Southern Pacific's Methods, Special to the Gazette. Poster has gone to Dallas and Commissione

McLean holds the fort alone

The attorney general filed his answer i the Travis county district court to-day in the suit of the Gulf, West Texas and Pacific railway company against the rail-road commission, the answer denies that the court has any jurisdiction of the case This plea is made on the ground that section 6 of the commission law authorize railways when dissatisfied with the actio rates or rulings of the commission to su the same "in a court of competent jurisdic

tion in Travis county A court of competent jurisdiction is too indefinite, says the attorney coneral. There follows next a general demurrer, a a general denial and special pleading bringing forth some bristling argu-ments. It is charged that the ments. It is charged that the plaintiff railroad company has been under the control and management of the Southern Pacific company since 1885, when the latt r purchased the Guif, West Texas and Pacific railroad; that the two roads are parallel and competing lines; that the purchase of plaintiffs' road was freight that might come from Nev Orleans to port Lavace, by wate to be distributed there from ove the Gulf, West Texas and Pacific to the Southern Pacific railway to be haule by rail from New Orleans; that freigh which should have been shipped by water Port Lavaca now comes a Southern Pacific; that he w wal of large amounts of frefrom plantiffs road in this mann-has disabled and rendered it less valuab is a common carrier: that it has, since i

acorporation with the Southern Pacific operated a defective train service and kep its track in bad repair, that if plaintiff has not conspired and colluded with the Southern Pacific in the manner described it could have done a prolitable business accommodated the public and run one train per day each way as it did before it became the property of the Southern Pacific. It is further at leged that the purchase of Plain tiff road by the Southern Pacific was made in pursurance of a plan ic absorb and destroy every railroad running from the southern and western portions of Louisiana. Texas and California to any point on the gulf in order that the said Southern Pacific company may control that traffic from New Orleans to the territory mentioned in said states. It is alleged that in pursuance of said plan of absorption the Southern Pacific now owns or controls the Galveston, Harrisburg and San Antonio, running from Houston to El Paso: the Texas and New Orleans, from Houston to Orange; the Sa-bine and East Texas, from Beaumont to Rockland: the New York. Texas and Mex ican, from Rosenberg to Beeville, and the Gulf. West Texas and Pacific: that no sep arate and distinct account of receipts and expenditures of the roads men-tioned is kept by the Southern Pathat its accounts and

of the roads mentioned are all combined and mixed indiscriminately together so that i

s impossible to tell the true state of plaint

that before the Southern Pacific purchased the plaintiffs' road it was a paying investment, wherefore defendant prays judgmen f the court and for all costs and genera

The Steam Engines of the World. The number of steam engines in the world is an ever hanging and rapidly increasing figure, keeping pace with the extension of the world's trade. Mulhall gave the horse power of the world's engines in 1940 as 2,356,000; in 1860 as 11,400,000, and in 1880 as 28,924,000. According to the bureau

of statistics in Berlin the horse power of the world's engines had in 1887 increased to no less than 46,000,000, and allowing for even a moderate increase since that time the horse power cannot now be less than 50,6(N), 000, says an English exchange, which for nishes the following statistics: France owns 49,509 stationary and locomotive boilers. 7,000 locouratives and 1,850 ship boilers: Germany has 59,000 boilers, 10,000 locomoives and 1,700 ship bollers; Austria, 12,000 boilers and 2,800 locomotives. The force equivalent to the working steam engines represents in United States, 7,500,000 horse power; in Great Britain, 7,000,000 horse power; in Germany, 4,500,000; in France. 3,000,000, and in Austria, 1,500,000.

Matrons as Heroines in Piction. If the married woman is to be the heroine of the coming novel it must turn on some thing besides love making. It must be the story of her career, of her professional or political success; of her painful accession through toilsome decades to the front rank of the doctors; of the money she made and what she did with it. American women are very much alive in these days. There is no special difficulty about writing interesting books about them without using men at all except as puppets or lay figures.

GOOD TIMES A-COMIN'.

I m in trouble aver my craps—Cathon is down to six cents a point.
Corn is twenty a bushed.
An I'm gettin down on the town—Them merchants in that drasted ulliage.
An a sellin' their bacon too high.
They are askin a tortin for taten.
An their ford it has rette the say.
Beed too, is a skase article in market—At least it is share to the biven.
For it they aim! makin' their fore its.
Then you kin call me a firm.
My ole woman's a paggly smart critter.
Who thinks she's a fine business man;
Sin teris me to work more on the farm.
She sa always a sayin foot one-tions.
About raisin bogs on the farm.

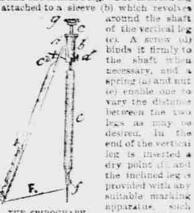
About ruisin bogs on the farm,
An gatherm pecans in the valley—
are as if it wasn't too warm!
She says that Tracy and Stum Pashby
Air powerful good things in their way,
But business is business, even
When you make it a business to pray.
There's Squire Jones, he's got money

AN INGENIOUS INSTRUMENT.

Designed for the Accurate Drawing of Carves and Spirals.

Popular Science News calls attention to the ingenious little instrument illustrated in the first cut, the invention of a French engineer, and designed for drawing curves and spirals with the same accuracy with which are drawn with the ordinary compass, of which the spirograph is only a

simple modification. As shown in the first engraving, it consists of a pair of compasses with one verti-cal and one inclined leg. The inclined leg is attached to a siceve (b) which revolves



THE SPIROGRAPH. as a peutili poin adrawing pen or a pen for making datted

or irregular lines. The two legs are counected together by a chread (b) In operation the instrument is held by the knob (g) as the top by one hand, and the inclined leg revolved around the vert cal one with the other. As it revolves the thread is wound upon the dry point if , and the distance between the two is con stantly and regularly diminished. As a consequence the marking point describes a perfectly regular spiral, the form of which may be varied by using duferent sizes of dry points and varying the charac



FIGURES DRA IN WITH THE SPIROGRAPH. In the second cut some illustrations an given of the capabilities of this sample bar useful instrument, which can easily be imbox of drawing instruments.



FOR THE GIRLS A \$400 Piano Without Money!

To the Texas girl or woman sending the WEEKLY GAZETTE the greatest number

of subscribers between this date and November 1, next, a

Now, Girls, is Your Chance to Get a Piano Without Money

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is one object of THE GAZETTE, and it will aid you to induce your friends to subscribe if you will tell them that for any subscription to the WEEKLY GAZETTE we will send, without charge, are ther copy one year to any friend or relative they may name outside of Texas. WEEKLY GAZETTE going back to friends or relatives in the old states is cheaper and more satisfactory than letters, for the WEEKLY GAZETTE tells Habout Texas and will be interesting reading to friends at a distance.

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Every order for subscriptions must specify that such subscriptions are sent under this piano offer, that we may know the sender is a contestant and properly enter her name on our book of contestants.

The money must accompany all orders.

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